

**2005 Ozone Strategy Control Measures  
Implementation Status (April 2009)**

| <b>CM #<br/>BAAQMD<br/>Reg - Rule</b>                  | <b>Source Category</b>                           | <b>Description</b>  | <b>Status</b>   | <b>Reduction<br/>Estimated in<br/>2005 Strategy<br/>(tons/day)</b> | <b>Reduction<br/>achieved<br/>(tons/day)</b>      |
|--|--|---|---|--|---|
| <i>Stationary: Industrial - Commercial Processes</i>   |  |   |   |  |   |
| SS-1<br>8-45   | Auto Refinishing                                 | Reduce VOC limits for some coating categories   | Adopted<br>12/3/08  | 0.7 ROG  | 3.7 ROG   |
| SS-2<br>8-20   | Graphic Arts Operations                          | Reduce VOC limits for flexographic ink & clean up solvent   | Adopted<br>11/19/08   | 0.15 ROG   | 1.65 ROG  |
| SS-3   | High Emitting Spray Booths                       | Require additional controls on spray booths that emit > 20 tons ROG/yr                              | Analysis indicated insufficient emissions reductions to warrant further action. | 0.5 ROG <sup>(1)</sup>   |   |
| SS-4<br>8-50   | Polyester Resin Operations                       | Reduce allowable monomer content for some types of polyester resins                                 | Current rule project, to be completed in Fall 2009                              | 0.3 ROG  |   |
| SS-5<br>8-32   | Wood Coating Operations                          | Reduce VOC limits for some coating categories   | Current rule project, to be completed in Summer 2009                            | 0.68 ROG   |   |
| <i>Stationary: Petroleum Products and Distribution</i> |  |   |   |  |   |
| SS-6<br>12-12  | Flares   | Minimize flaring at petroleum refineries.   | Adopted<br>7/20/05,<br>4/5/06   | Not estimated  | Variable<br>ROG + NOx<br>+ PM                     |
| SS-7<br>8-33, 39                                       | Gasoline Bulk Terminals and Plants               | Require automatic shutoff and backpressure monitors, set more stringent leak, emission standards    | Adopted<br>4/15/09  | 0.14 ROG   | 0.07 ROG  |
| SS-8<br>8-44, 46                                       | Marine Loading Operations                        | Control additional cargoes, set more stringent leak standards and/or control housekeeping emissions | Adopted<br>12/07/05   | 0.44 ROG   | 0.6 ROG   |
| SS-9<br>8-5  | Organic Liquid Storage                           | Tighten existing requirements and/or control lower vapor pressure liquids                           | Adopted<br>10/18/06   | Not estimated  | 0.03 ROG  |
| SS-10<br>8-28  | Pressure Relief Devices                          | Improve enforceability of rule  | Adopted<br>12/21/05   | 0.001  | Variable<br>ROG                                   |
| SS-11<br>8-8   | Wastewater Systems                               | Control emissions from wastewater collection systems  | Adopted<br>9/15/04  | 2.1 ROG  | 2.1 ROG   |
| <i>Stationary: Combustion Process</i>                  |  |   |   |  |   |
| SS-12<br>9-7   | Industrial, Institutional and Commercial Boilers | Extend existing limits to smaller boilers and/or set a more stringent standard                      | Adopted<br>7/30/08  | 0.5 - 1 NOx  | 3.8 NOx;<br>0.4 PM <sub>2.5</sub> <sup>(2)</sup>  |
| SS-13<br>9-6, 7  | Large Water Heaters and Small Boilers            | Require new, small boilers and large water heaters to meet NOx limits                               | Adopted<br>11/7/07  | 0.39 NOx   | 2.5 NOx;<br>0.36 PM <sub>2.5</sub> <sup>(2)</sup> |
| SS-14<br>9-9   | Stationary Gas Turbines                          | Implement BARCT NOx limits on existing turbines   | Adopted<br>12/06/07   | 1.2 NOx  | 0.43 NOx  |

Notes:

1. Revised emissions estimate indicates only one facility would be subject to a rule, further emissions reductions from the facility are not considered cost effective.
2. Secondary PM calculated from NOx reductions.

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| SS-15                    | Promote Energy Conservation | Develop a voluntary ordinance for adoption by jurisdiction, energy efficiency programs, education & outreach | Energy efficiency has been addressed primarily through the Climate Protection Grant Program, and the Protect Your Climate Curriculum. This measure will be reconfigured in the 2009 CAP. |

| <b>Mobile Source Measures</b> |   |  |  |
|-------------------------------|---|--|--|
| MSM-1                         | Diesel Equipment Idling Model Ordinance | Reduce emissions from the idling of diesel equipment   | District has recently assembled a team of inspectors to help enforce ARB diesel idling rules, with objective of establishing an ongoing presence in communities highly impacted by diesel truck traffic. District's efforts to reduce diesel idling and emissions from diesel engines will be further defined and enhanced in the development of control measures for the 2009 CAP. See also MSM-3 below re: BAAQMD grants to reduce diesel emissions. |
| MSM-2                         | Green Contracting Model Ordinance       | Develop and promote a model ordinance to help local government agencies to encourage contractors to use clean vehicles, equipment and fuels. | This measure will be reconfigured in the 2009 CAP. BAAQMD provided grants to Sonoma and Marin Counties, and the Town of Hillsborough for development of local ordinances.  |
| MSM-3                         | Low Emission Vehicle Incentives         | Encourage the purchase of new low-emission vehicles to reduce emissions from existing vehicles.  | Between 2005 and 2007, BAAQMD has awarded almost \$20 million in grants for the purchase of low-emission vehicles, cleaner engines and retrofit devices for transit buses, school buses, garbage trucks, public and private fleets. Reductions realized estimated at 0.04 tons per day (tpd) of ROG and 0.04 tpd of NOx.   |
| MSM-4                         | Vehicle Buy Back Program                | Accelerate the retirement of older, high emitting vehicles from the region's roadways by providing incentives to scrap them.                 | Between 2005 and 2008, BAAQMD provided incentives to retire approximately 15,500 passenger vehicles model year 1987 and older for a total cost of approximately \$13 million. Reductions realized estimated at 1.03 tons per day (tpd) of ROG and 0.55 tpd of NOx.   |

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| TCM- 1 | Support Voluntary Employer Based Trip Reduction Programs | Support and encourage voluntary efforts by Bay Area employers to promote the use of commute alternatives by their employees | BAAQMD has provided grants for 511 Regional Rideshare Program, Marin video-conferencing, Spare the Air employer program, Guaranteed Ride Home Programs in San Francisco, Solano, Napa, and West Contra Costa. Other employer-based programs in San Ramon, West and East Contra Costa, Alameda, San Mateo. MTC is the primary funding source for the annual Bike To Work Day promotion. |
| TCM- 2 | Adopt Employer Based Trip Reduction Rule (Deleted)       | Deleted   | Deleted per Health & Safety Code Section 40717.9.  |
| TCM-3  | Improve Local and Area wide Bus Service                  | Reduce motor vehicle trips, vehicle miles traveled, and mobile source.  | MTC funded three express bus projects, Richmond Bridge, East Bay North, and East Bay South, and the Lifeline Transportation Program. BAAQMD provided grants for Tri-Delta, Muni, Napa, and LAVTA transit. Funding provided to improve bicycle parking at BART stations. Opened Intermodal and Park & Ride lots in Petaluma, Windsor and Cotati (MTC/BAAQMD funded).                    |
| TCM-4  | Upgrade and Expand Local and Regional Rail Service       | Reduce motor vehicle trips vehicle miles traveled and mobile source emissions   | MTC funded Third Street Light Rail Project (Phase 1), Caltrain Express/Rapid Rail Phase I, and SCVTA Vasona light rail extension (adds 8 new stations and 5.3 miles).  |
| TCM-5  | Improve Access To Rail and Ferries                       | Reduce motor vehicle trips, vehicle miles traveled and mobile source emissions by reducing auto trips                       | BAAQMD funded shuttle projects to connect to rail and ferry stations connecting Caltrans, Samtrans, SFO, SCVTA, West Berkeley, PresidGO, Mid-Day Menlo Park, UCSF, Ace Trains to Stoneridge Business Park and Dublin/Pleasanton BART, and from Benicia Industrial Park to Vallejo ferry.   |
| TCM-6  | Improve Inter-Regional Rail Service                      | Reduce motor vehicle travel and emissions for longer distance interregional trips   | See TCM-5 for shuttles funded by BAAQMD connecting Ace Train, Caltrans. BAAQMD funded 4 locomotive engines for passenger service. Ongoing plans to improve and expand service underway (MTC funded).   |

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| TCM-7  | Improve Ferry Service                            | Reduce emissions from Transbay auto trips, which tend to be longer in length, and will also reduce auto traffic in highly congested bridge corridors | BAAQMD funded 11 ferry engine repower projects. Ongoing plans to improve and expand ferry service are underway under the auspices of Water Emergency Transit Authority and MTC.  |
| TCM-8  | Construct Carpool/ Express Bus Lanes on Freeways | Reduce mobile source emissions by encouraging high occupancy vehicles  | Regional express buses put in service, completed HOV lanes on SR 87 in SC, 1-880/237 and 85/101, 580 in Alameda and I-80 in Solano; ramp meters 101 in San Mateo completed, under construction 101 in Marin.   |
| TCM-9  | Improve Bicycle Access and Facilities            | Reduce mobile source emissions by encouraging cycling  | MTC adopted Resolution 3765 to encourage routine accommodation of cyclists and pedestrians in projects funded by MTC regional discretionary funds. MTC has provided funding (\$8 million per year) via regional bicycle/pedestrian program, 511 BikeMapper (part of 511 Rideshare) funded by MTC and BAAQMD. BAAQMD provided grants for bicycle parking or lanes in every Bay Area county. |
| TCM-10 | Youth Transportation                             | Reduce motor vehicle travel and mobile source emissions related to the transportation of youth and students for school and other activities          | BAAQMD provided grants for clean school buses throughout region, including San Ramon, Lafayette, Milpitas, River Delta School District, West Sonoma, Pleasant Hill. Subsidized transit passes for students in Sonoma and Marin Counties and San Ramon (BAAQMD)   |
| TCM-11 | Install Freeway Traffic Management System        | Reduce emissions produced by stop and go congestion  | Ongoing Freeway Service Patrols sponsored by MTC, CHP, Caltrans.   |
| TCM-12 | Arterial Management Measures                     | Reduce vehicle idling and acceleration   | BAAQMD funded projects completed include on San Tomas Expressway, Matilda in Sunnyvale, Lawrence Expressway, McDowell/Baywood in Petaluma, 14 <sup>th</sup> Street arterial in Alameda County, Mowry, Stevenson, Blacow in Fremont, Light Rail Controller Upgrade Project in San Jose, and on Constitution Way/Lincoln in City of Alameda.   |

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| TCM-13 | Transit Use Incentives                             | Programs to increase transit use and reduce vehicle emissions  | Translink on AC Transit and Golden Gate Transit. Real-time transit info on Muni, BART (MTC). (See also TCM-3 for intermodal and Park & Ride facilities and TCM-1, TCM-16.)   |
| TCM-14 | Carpool and Vanpool Services and Incentives        | Reduce motor vehicle emissions   | Ongoing funding for 511 Regional Rideshare Rideshare short-term vanpool subsidy and "start-up" incentive subsidy. See also TCM-1.  |
| TCM-15 | Local Land Use Planning And Development Strategies | Reduce motor vehicle use and emissions by promoting land use patterns and new development that facilitate walking, bicycling and transit use | Via FOCUS, regional agencies have implemented partnership with local jurisdictions to define priority development areas (PDAs). In June 2008, MTC in partnership with AC Transit launched TransLink® for TOD, offering residents of select transit-oriented development (TOD) complexes around the East Bay unlimited free travel on AC Transit's local and transbay buses during a one-year pilot program.  |
| TCM-16 | Public Education / Intermittent Control Measures   | Educate the public about air quality in the Bay Area   | BAAQMD grant funding for East 5 <sup>th</sup> Street Project in Benicia that added bicycle lanes, curb extensions, new sidewalks in an area with elementary three schools.<br><br>See also TCM-3 thru TCM-7, TCM-17, 19 and 20.  |
| TCM-17 | Conduct Demonstration Projects                     | Promote demonstration projects to develop innovative approaches to reduce mobile source emissions  | Spare the Air notices, webpage, banner, advertisements, free transit rides (BAAQMD)<br>Transit marketing in Sonoma, transit and bicycle marketing in Petaluma (BAAQMD)<br><br>PATH demonstration of electronic bicycle lockers at Pleasant Hill BART Station. (MTC/BAAQMD)<br>Alameda County CMA Dynamic Ridesharing pilot projects (MTC)<br>BAAQMD funded the Travel Choice program pilots in Fruitvale and the City of Alameda. This program was then implemented in Berkeley and San Leandro.<br>SF County Telecommute Pilot Project (BAAQMD)<br>See also TCM-15. |

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| TCM-18 | Implement Transportation Pricing Reform  | Improving air quality and addressing persistent congestion issues  | MTC has proposed to develop a regional High Occupancy Toll (HOT) lane network is included in T2035 regional transportation plan. MTC developed a best parking practices manual and technical resources to assist local governments in revising parking policies. San Francisco is studying congestion pricing and market-based parking pricing.  |
| TCM-19 | Improve Pedestrian Access and Facilities | Making pedestrian travel safer, more convenient and more attractive will promote walking, reduce the need to use autos, and therefore reduce mobile source emissions | MTC adopted Resolution 3765 to encourage routine accommodation of cyclists and pedestrians in projects funded by MTC regional discretionary funds. MTC has provided funding (\$8 million per year) via regional bicycle/pedestrian program. BAAQMD grant for Pedestrian Access project in Suisun City, Bayview Gateway in SF, and Sunnyvale, multi-use trails in Morgan Hill, Sebastopol, Suisun, Livermore, Mountain View, American Canyon, Contra Costa, Antioch, and Marin. |
| TCM-20 | Promote Traffic Calming Measures         | Reduce motor vehicle emissions   | Palo Alto, Menlo Park, Mountain View and Cotate all have plans or studies ongoing. San Francisco has installed curb bulbs, median refuges, lighted crosswalks, ladder crosswalks, and fluorescent yellow crossing signs.   |

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| <i>Stationary: Other</i> |  |     |                 |                      |  |
|--------------------------|--|-----|-----------------|----------------------|--|
| Wood Burning             | Reduce wood smoke by limitations on new devices, curtailment on high PM days | 6-3 | Adopted 7/09/08 | 2.69 PM2.5 (average) |  |

| <i>Further Study Measures</i> |   |  |  |                        |  |
|-------------------------------|---|--|--|------------------------|--|
| FSM-1<br>8-51                 | Adhesives and Sealants                              | Reduce VOC limits for architectural adhesives  | Currently under evaluation. Remains an FSM.  |                        |  |
| FSM-2<br>8-3                  | Architectural Coatings                              | Reduce VOC limits from architectural coatings  | Scheduled 2 <sup>nd</sup> Quarter, 2009  | 5.4 ROG (proposed)     |  |
| FSM-3<br>6-2                  | Commercial Cooking Equipment                        | Reduce NOx and particulate from charboilers  | Adopted 12/05/07   | 0.09 VOC,<br>0.55 PM10 |  |
| FSM-4                         | Composting Operations                               | Limit emissions of both VOC and ammonia  | Staff recommendation: Develop into control measure for the 2009 CAP.   |                        |  |
| FSM-5                         | Food Product Manufacturing and Processing           | Reduce VOC limits for facilities that emit more than 440 pounds/month of organic compound emissions that produces, formulates or configures food or food products, including spices, extracts, flavorings & colorings  | Staff recommendation: Delete from Control Strategy due to insufficient emissions reductions to warrant further action. |                        |  |
| FSM-6                         | Livestock Waste                                     | Reduce emissions of particulate, ammonia (which forms aerosol particulate matter) and VOC  | Staff recommendation: Develop into control measure for the 2009 CAP.   |                        |  |
| FSM-7<br>8-33<br>8-39         | Limitation on Solvents Based on Relative Reactivity | Make regulations more effective by replacing VOC limits, measured in mass VOC per volume of product, with limits based on the relative contribution to ozone formation of each of the organic species that make up the VOC of a product, or the "relative reactivity." | Currently under evaluation.  |                        |  |
| FSM-8<br>8-16                 | Solvent Cleaning and Degreasing                     | Reduce VOC limits  | Currently under evaluation. Remains an FSM.  |                        |  |
| FSM-9                         | Emission from Cooling Towers                        | Reduce organic emission limits   | Currently under evaluation.  |                        |  |
| FSM-10<br>8-8                 | Refinery Wastewater Treatment Systems               | Reduction in ROG from refinery wastewater systems  | Staff recommendation: Insufficient emissions reductions to warrant further action.                                     |                        |  |
| FSM-11                        | Vacuum Trucks                                       | Reduce emissions   | Staff recommendation: Develop into control measure for the 2009 CAP.   |                        |  |
| FSM-12<br>8-18                | Valves and Flanges                                  | Valves and flanges are typically found at refineries and chemical plants, but also found in other petroleum and gas production facilities.   | Currently under evaluation.  |                        |  |

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| FSM-13         | Wastewater from Coke Cutting Operations | Determination of whether coke cutting wastewater contains significant quantities of VOC and whether there is any potential for emissions reductions from these operations  | Currently under evaluation.   |  |         |
| FSM-14<br>9-10 | NOx Reduction from Refinery Boilers     | Reduction of NOx   | Staff recommendation: develop rule amendments. Scheduled for Fall 2009.   |  |         |
| FSM-15<br>9-8  | Stationary IC Engines                   | Reduce NOx limits for IC engines, reduce secondary particulate matter  | Adopted<br>7/25/07  |  | 9.6 NOx |
| FSM-16         | Encourage Alternative Diesel Fuels      | Exploration of the potential air quality benefits of using biodiesel fuel in place of conventional petroleum diesel  | BAAQMD has awarded approximately \$5.4 million in grants for emulsified diesel fuel in shipping and shore power projects. These projects are ongoing.   |  |         |
| FSM-17         | Mitigation Fee for Federal Sources      | Mitigation Fee Program, adopted into the South Coast AQMD's 2003 AQMP, but not yet implemented, would charge an air quality impact fee to sources pre-empted from State and local air district authority under the federal Clean Air Act | Currently under evaluation.   |  |         |
| FSM-18         | Indirect Source Mitigation Program      | Indirect sources are development projects that generate vehicle trips and thus indirectly cause air pollutant emissions  | Staff recommendation: Develop into control measure for the 2009 CAP.  |  |         |
| FSM-19         | Free Transit on Spare the Air Days      | The Air District and MTC will study the feasibility of providing free transit service on STA days  | Free Transit on Spare the Air (STA) Days was implemented for three years and discontinued when funding ran out. Propose to delete this FSM in the 2009 CAP.   |  |         |
| FSM-20         | Episodic Measures                       | Episodic measures are measures implemented only at times when pollution levels are projected to exceed air quality standards.  | District continues to implement the Spare the Air (STA) program. However, STA is evolving to promote clean air choices on an everyday basis. The District's "Don't Light Tonight" program and wood-smoke rule (adopted July 2008) both reduce wood-burning and particulate matter on an episodic basis. |  |         |